

Preliminary Report of Bird Surveys for Pumped Storage  
Hydroelectric Power Plant

December 30, 1993

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## INTRODUCTION

Brief on-site surveys for birds were conducted at Kaau Crater, Maunawili Valley, and Koko Crater. The goal of the surveys was to determine the actual or potential existence of endangered or threatened species or of species whose abundance on Oahu has been declining. At the time of the surveys, the following bird species were listed by the U.S. Fish and Wildlife Service (USFWS 1983) and by the State of Hawaii (DLNR 1986) as endangered or threatened on Oahu, and were known or suspected to exist on the island (Pratt et al. 1987, Hawaii Audubon Society 1989):

American Coot	( <u>Fulica americana alai</u> )
Common Moorhen	( <u>Gallinula chloropus sandvicensis</u> )
Black-necked Stilt	( <u>Himantopus mexicanus knudseni</u> )
Hawaiian Duck	( <u>Anas wyvilliana</u> )
Oahu Creeper	( <u>Paroreomyza maculata</u> )
Newell's Shearwater	( <u>Puffinus newelli</u> ) (threatened only)

In addition the State of Hawaii recognizes the following as endangered or threatened on the island of Oahu:

Iiwi	( <u>Vestiaria coccinea</u> )
Short-eared Owl	( <u>Asio flammeus sandwichensis</u> )
White Tern	( <u>Gygis alba rothschildi</u> ) (threatened only)

The following subspecies is recognized as declining on Oahu (Williams 1987):

Elepaio	( <u>Chasiempis sandwichensis gayi</u> )
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## METHODS

The Kaau Crater site, Maunawili Valley site, and Koko Crater sites were investigated on October 3, 10, and 17, 1993, respectively. Approximately 2-3 hours were spent identifying birds by sight and sound and inspecting habitat. No attempt was made to conduct a comprehensive survey.

In addition, biologists at the Bishop Museum, USFWS, Division of Forestry and Wildlife, and University of Hawaii were consulted. Data on the distribution and abundance of native birds were gathered from the literature.

## RESULTS

No endangered, threatened, or declining species were seen or heard at any of the 3 sites. However, the Black-necked Stilt, Hawaiian Duck, and American Coot have been known to occur in Kaau Crater in the past (Shallenberger 1977), the Short-eared Owl has been known to occur in Maunawili Valley (Eric VanderWerf, University of Hawaii) and Koko Crater (Carolyn Mostello, University of Hawaii), and the White Tern has nested at Koko Head (Ord 1961). In addition, the Oahu Elepaio has been known to occur near Maunawili Valley on the new trail off the Pali Highway (Bob Pyle, Bishop Museum), and dead Newell's Shearwaters have been found near the Pali Tunnels (Harrison 1990).

Other native bird species were detected or known to have occurred at the 3 sites. These are listed in the following table:

Species	Site		
	Kaau Crater	Maunawili Valley	Koko Crater
Common Amakihi	+	+	#
White-tailed Tropicbird	+		+
Pacific Golden-Plover			+
Apapane	#		

(+ = current survey)

(# = Shallenberger 1977)

## DISCUSSION

The survey was far too limited in time and coverage to conclude that some significant species were either not present at the time or would not be present in the future. Here special attention will be focused on significant species that were not detected but known to have occurred previously or possible now.

The Kaau Crater includes the endangered waterbirds (Black-necked Stilt, Hawaiian Duck, American Coot, and possibly the Common Moorhen) (Shallenberger 1977). The fact that none of these were detected during the current survey may reflect deteriorated wetland conditions over the years. There was little standing water during the survey. Earlier in 1993, several ornithology students from the University of Hawaii hiked into the crater and did not see or hear waterbirds. The Kaau Crater is not listed as essential habitat for these endangered species in the recovery plan (USFWS 1985). None of the other sites would be expected to have endangered waterbirds.

The threatened Newell's Shearwater is known only from road kills near the Pali Tunnel. It is not known at this time if these are birds associated with nesting attempts on the Pali or if they are blown up from below by strong winds. Either way, however, makes them possible in the nearby Maunawili Valley site. As a precaution for potential development in this site, all lights should be shaded to prevent birds from being disoriented (Reed et al. 1985).

The threatened White Tern on Oahu is known from a nesting attempt at Koko Head during 1961 (Ord 1961). This makes it possible at the Koko Crater site, although the population now on Oahu is concentrated in Kapiolani Park and portions of urban Honolulu (Harrison 1990).

The Pueo is known from the Maunawili Valley and Koko Crater sites and is possible at the Kaau Crater site. The Pueo inhabits dry forests and rain forests, but is most often seen hunting in grasslands (Scott et al. 1986). This bird might thus be expected in all 3 study sites as an occasional forager if not as a regular breeder, especially if a prey base could be identified. If this project is to proceed further, it might be appropriate to conduct a more comprehensive survey for the bird.

The Oahu Elepaio is possible in several sites. This bird has been declining dramatically during the last 15 years (Williams 1987) and a recent state bird survey revealed small and fragmented populations on this island (Paul Conry, DLNR, pers. comm.). However, it is also the case that the elepaio can exist in forests consisting of mainly introduced trees and understory vegetation. The introduced vegetation in the Kaau Crater and in Maunawili Valley might be suitable habitat for Elepaio. In addition, elepaio have been documented on the nearby Maunawili Trail and on the eastern portion of Oahu on the Koolau Mountains toward Hawaii Kai (Bob Pyle, Bishop Museum, pers. comm.). If this project is to proceed further, it might be appropriate to conduct a more comprehensive survey for elepaio.

None of the other significant species are expected in the study sites. The main reason for this is that the study sites do not provide suitable habitat for forest birds that require native forest (Berger 1981, Scott et al. 1986).

## LITERATURE CITED

- Berger, A.J. 1981. Hawaiian Birdlife, 2nd ed. University of Hawaii Press, Honolulu.
- DLNR 1986. Indigenous wildlife, endangered and threatened wildlife and plants, and introduced wild birds. Department of Land and Natural Resources, State of Hawaii, Administrative Rule dated 28 August 1986.
- Harrison, C.S. 1990. Seabirds of Hawaii. Cornell University Press.
- HAS. 1989. Hawaii's Birds. Hawaii Audubon Society.
- Ord, M.W. 1961. White Tern at Koko Head, Oahu. Elepaio 22: 17-18.
- Pratt, H.D., Bruner, P.L., and Berrett, D.G. 1987. The Birds of Hawaii and the Tropical Pacific. Princeton University Press.
- Reed, J.R., Sincock, J.L., and Hailman, J.P. 1985. Light attraction in endangered procellariiform birds: reduction by shielding upward radiation. Auk 102: 377-383.
- Shallenberger, R.J. 1977. An ornithological survey of Hawaiian wetlands. Ahuimanu Productions, Honolulu.
- Scott, J.M., Mountainspring, S., Ramsey, F.L., and Kepler, C.B. 1986. Forest birds communities of the Hawaiian Islands: their dynamics, ecology, and conservation. Studies in Avian Biology No. 9, Cooper Ornithological Society.
- USFWS 1983. Republication of the lists of endangered and threatened species. Federal Register 48: 34182-34196.
- USFWS 1985. Recovery Plan for the Hawaiian Waterbirds. U.S. Fish and Wildlife Service, Portland, Oregon.
- Williams, R.N. 1987. Alien birds on Oahu: 1944-1985. Elepaio 47: 87-92.